DOCUMENT RESUME

ED 203 624 EC 133 309

AUTHOR Kluwin, Thomas N.
TITLE The Development of Preposition Usage in the Written English of Deaf Adolescents.
INSTITUTION Model Secondary School for the Deaf, Washington, D.C.
SPONS AGENCY Department of Health, Education, and Welfare, Washington, D.C.
PUB DATE 79
NOTE 21p.: Paper presented at the Annual Boston University Conference on Language Development (3rd, September, 1978).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Deafness: Error Analysis (Language): *Language Skills: Secondary Education: *Writing Skills
IDENTIFIERS *Prepositions

ABSTRACT

Preposition usage by students at a secondary school for the deaf was examined in Ss' response to a videotape showing a young woman using Signed English with a voiceover. A descriptive essay was collected in response to a question she posed. Essays were typed verbatim into computer storage and then coded for grammatical features using a multiple error code. Three types of preposition users were identified. Errors in preposition usage were rank ordered (high error/high frequency, high error/low frequency, low error/high frequency, and low error/low frequency). Sources of confusion in preposition usage are noted, and a model for preposition development is briefly considered. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED203624

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The Development of Preposition Usage in the Written English of Deaf Adolescents

Thomas N. Kluwin

1979

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Leonard Goldberg

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

This publication was sponsored by the Model Secondary School for the Deaf which is authorized and funded by the U.S. Department of Health, Education, and Welfare, through Public Law 89-694. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official U.S. Department of Health, Education, and Welfare position or policy.

Gallaudet College is an equal opportunity employer. The College admits students of any sex, age, religion, race, color, national and ethnic origin to all the rights, privileges, programs and activities generally accorded or made available to all students who qualify for admission to the College. It does not discriminate on the basis of sex, age, religion, race, color, national and ethnic origin in administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other school-administered programs. Programs and services offered by Gallaudet College receive substantial financial support from the Department of Health, Education and Welfare.

EC 133309

The Development of Preposition Usage in the Written English of Deaf Adolescents

Introduction

Two things can be said about previous work on the preposition usage of deaf children. First, it has concentrated primarily on the syntax of prepositional phrases. Second, it has generally regarded the problem as one of deletion of prepositions in appropriate positions. This paper will attempt to describe the development of the semantics of the preposition usage of deaf children and at the same time to account for some of the reasons deaf children have difficulty in using the English prepositional system.

Charrow (1974), in the development of her test of "Deaf English," applied a primary overriding rule to the few prepositions she tested for. In the case of "in," "at," "to," and "on," she consistently deleted them in the preparation of her test items. She did present two instances of redundancies with special verbs. Like all comprehension tests, the test must have a finite domain of questions; therefore, she was unable to test for a wide range of prepositional usage. Taylor (1969) remarked that omissions were the largest single category of prepositional errors for younger deaf children (p. 74). Although Taylor claimed that there was improvement over time, she was unable to establish the process statistically. She did make two pertinent observations about the development of preposition usage. First, she remarked that preposition growth has a component of syntactic growth, but it is also highly dependent on vocabulary development. Second, she remarked

---

Paper presented at the Third Annual Boston University Conference on Language Development, September 1978.

on the confusion that occurs with prepositions that could be used as part of a verb phrase. Bolinger (1971) describes this structure as the phrasal verb, and Sroka (1973) categorized it as a preposition- adverb on distributional criteria.

The verb-modifying adverb and the preposition are not mutually exclusive categories. This potential for overlap is, no doubt, one of the bases for the difficulty that deaf children have with the prepositional system.

While the use of preposition-adverbs with certain verbs is an interesting topic and one that presents considerable difficulties for deaf children, it will only be mentioned briefly in this paper. The main focus of this paper will be on the development of the semantics of prepositions. This paper presents an analysis of the source of the semantic errors deaf children make; and it presents a developmental sequence that describes the prepositions used in simple phrases as they are first employed and as they are mastered.

If the English prepositional system had been in existence 2,500 years ago, its categorization would have been added to the torments of Sisyphus and Tantalus. The semantic categorization of the English preposition is complicated by the fact that it has at least three syntactic functions:

(1) Simple. The meaning of the preposition is that of the minimal relationship that the preposition specifies. This occurs in simple prepositional phrases.

There is a package <u>for Mary</u>.

(2) Compound. The meaning is extended by the use of the preposition in combination with a verb. This is what Bolinger terms "phrasal verbs" and Sroka calls

"preposition-adverb." Goyaerts (1974) has categorized the semantics of such constructions on six dimensions and points out the complexity of dealing with this type of construction.

I will go up the stairs.

(3) Transformational. The meaning of the preposition is extended by the use of the preposition as a clausal subordinator. The most obvious cases are the formation of passives using BY-INSERTION and the FOR-INSERTION subordination transformation.

John was hit by a rock.

This study deals primarily with the first category: the use of prepositions in prepositional phrases. The problem of "compound" meanings will be mentioned briefly, and transformational uses will not be dealt with. Quirk, Greenbaum, Leech, and Svartvik (1972) and Talmy (1972) provide additional discussion of these topics.

Method

The data for this study were collected from a secondary school for the deaf in the eastern United States. The data were collected by bringing all the students together during their English classes to a central location and showing them a videotape. On the videotape, a young woman, using Sign English with a voiceover, signed that she was going to be a new student at the school and was interested in knowing about the school. The students were then asked to write a letter to the girl telling her about the school. In this fashion, a descriptive essay was collected from all the students.

The letters were typed verbatim onto computer storage. The stored letters were then coded for grammatical features using a multiple-error

code. This permitted later reanalysis of the corpus, as well as rapid statistical analysis of the coded letters.

Findings

In the sample, there were three types of preposition users that could be described. Permutations could possibly produce five categories, but three were clearly identifiable. First, there were those students who apparently had no concept of the use of a preposition, for they were still functioning with a topic-comment grammar in English. For example, one student wrote: "(school name) are new student. Student and visitor class." The student was trying to convey the notion that there will be a new student in the school and that the new student will come or has come as a visitor to the class. Second, there were those students who had acquired the concept of the use of prepositions in English but had not as yet developed a number of them; that is, they tended to generalize a single preposition into multiple functions, some of which were clearly inappropriate. Third, there were those students who had acquired a fairly complete set of prepositions but were using them in much the same fashion that a foreign speaker would; that is, they would overgeneralize the use of the preposition into a case where a special selectional restriction would make it inappropriate.

Errors in preposition usage were rank ordered on two measures. The first measure was the percentage of preposition errors per total prepositions used by the writers. The second was on the basis of the frequency that a particular preposition appeared in the corpus. Major semantic distinctions between uses of the same preposition were employed. Specifically, if a preposition could have a temporal, locative manner, or partitive meaning, the various meanings were coded

separately. For example, "in", as "in school," was a high-frequency preposition, but "in", as "in a hurry," was not. Both rankings were divided on the mean to produce four cells. The distribtution is presented in Table 1.

Table 1

Preposition Usage

High Error/High Frequency

for	(t)
at	(p)
in	(p)
to	(p)

High Error/Low Frequency

against	(p)
in	(m)
from	(t)
like	(r)
to	(m)
of	(m)
on	(m)
on	(p)

Low Error/High Frequency

with	(r)
with	(m)
for	(m)
of	(r)
from	(p)
about	(m)

Low Error/Low Frequency

after	(m)
behind	(p)
instead of	
for	(p)
without	(r)
off	(p)
of	(p)
up to	
beside	(p)
on	(m)
by	(m)
around	(p)
during	(t)
at	(t)
like	(m)
as	(m)
in	(m)

(t) temporal (e.g., in one hour)

(p) locative (e.g., in New York)

(m) manner (e.g., in a hurry)

(r) partitive (e.g., the father of John)

High-Error/High-Frequency Prepositions

The greatest problems for the children in the sample were the use of "for" to express continuous duration, a confusion of "in" and "at" for stationary location, and finally, a confusion of "in" and "at" with "to" to express movement toward a location.

"For" was not in free variation with any other preposition, but was often deleted. It was not established as a separate grammatical item within the sample. There is a tendency for deaf children (Taylor, 1969) to use sentence-modifying adverbs for a variety of functions; and there was some confusion among these writers between sentence-modifying, temporal adverbs which have specific "ly" endings and the use of a preposition with a temporal noun to express a length of time. For example, "weekly," "week," "for a week" would exist in free variation.

"In," "at," "to" were in free variation and were used to express a general notion of location in space with the verb-specifying motion. About a third of the time, "at" would be used for "in," while "in" was used for "at" only a tenth of the time. "To" was the most stable form, "at" was a somewhat less stable form, and "in" was the most variable form.

It is possible to account for the apparently high degree of variation in the use of "in," "at," and "to" by considering the possible meanings of the prepositions. Hill (1968) lists 72 different meanings for "at," 154 for "in," and 96 for "to." Much of this volume can be reduced by first only considering his "elementary-level" uses and by eliminating those uses that are tied to a verb. The "intermediate" and "advanced" meanings for all of his preposition classifications seem to involve either one or two general principles. Either the more complex

meaning is a special case of a preposition used with a verb, or it is some sort of metaphoric use of a more generalized meaning. Occasionally, he presents preposition usages that are marginally locative; that is, it is difficult to say clearly whether a spatial relationship is involved or some other kind of relationship. These will not be considered. However, this still leaves five meanings for "to," seven meanings for "at," and six for "in." These various meanings are presented in Table 2.

Table 2

Several Possible Meanings for Selected Prepositions

"TO" used in a locative sense:

1. "to" indicating motion in the direction of and actually reaching a point.

   He went to the post office.

2. "to" combining meanings of motion and purpose followed by a noun without an article.

   France went to war with Germany three times in 75 years.

3. "to" meaning "toward" or "in the direction of."

   From here, we will go to the north.

4. "to" meaning "as far as" or some distance.

   It is a long way to the village.

5. "to" indicating direction without motion.

   He stood with his back to the fire.

"AT" used in a locative sense:

1. "at" used to show relative position in space indicating a point.

   We'll meet at my house.

2. "at" used with proper names of places which are considered transitory points.

   Our train stopped at New Haven.

3. "at" meaning positioned in relation to a three-dimensional object.

   He was standing at his desk.

4. "at" meaning positioned in relation to a surface that is to be bisected.

   There is someone at the front door.

5. "at" meaning participating in a function or activity.

   George is at school.

6. "at" meaning a street address.

   I live at 4716 S. 29th Street.

7. "at" indicating motion toward, often with an additional meaning of opposition.

   We ran at the door.

"IN" used in a locative sense:

1. "in" used for a place or position implying limits.

   We live in houses.

2. "in" meaning motion toward an interior.

   We are going in the house.

3. "in" before the proper names of continents, seas, etc.

   John lives in America.

4. "in" used before a countable noun without an article.

   John is in class.

5. "in" used in opposition to "on" when items of furniture have vertical boundaries.

   He sat in the chair. He sat on the chair.

6. "in" used for position on a surface without limits.

   There is an island in the middle of the lake.

It is possible to differentiate, within each of the sets of preposition meanings, all the various meanings with a sample set of binary features. The features of +motion, +direction, +completion, +distance, +position, +relative, +dimension, +surface, +function, +specific, +limits, and +interior can be used to differentiate all the meanings within a single preposition. However, when this relatively simple system is applied to three different prepositions, the source of deaf children's problems with these prepositions become clear.

Table 3

Contrastive Feature Analysis for Selected Prepositions

	TO 1	TO 3	AT 7	AT 2	TO 2	IN 2	TO 4	TO 5	AT 3	AT 4	AT 1	IN 3	IN 6	IN 1	IN 5	IN 4	AT 6	AT 5
Motion	X	X	X	X	X	X												
Direction	X	X	X				X	X										
Completion	X			X					X	X	X							
Distance	X						X		X	X	X	X	X	X		X		
Position									X									
Relative											X				X			
Dimension																		
Surface												X	X					
Function																		
Specific																	X	X
Limits														X	X		X	
Interior						X								X				

Table 3 shows the various prepositions with numbers assigned to reference them to Table 2. One would expect that if the prepositions in question each defined a unique piece of semantic space and hence were nonredundant, they would exhibit a continuum where all meanings of one preposition would be together. This, however, is not the case for Table 3. Clearly, "TO 1" is at one end of such a continuum, and "AT 5" is at the other end, but in between the distribution is quite scattered. This simple system is incapable of distinguishing certain meanings. Specifically, it groups "TO 3" with "AT 7" and "IN 3" with "IN 6."

Consider the sentences:

(1) We ran to the north.

(2) We ran at the door.

Both sentences imply motion and direction. Motion is an optional feature of "at," but an obligatory feature of "to." What distinguishes the two meanings is that an additional and unique specification of opposition must be added to the meaning of "at." Hence, a deaf child intending to write Sentence 2 could apply the rules for Sentence 1 and produce the meanings of "TO 1" which includes not only motion and direction, but completion as well.

The combining of "IN 3" and "IN 6" may, or may not, be a redundancy in the earlier presentation. If one could define continents, seas, oceans, etc., as surfaces without limits, then the failure of the category system is due to the inclusion of a special case in the original specifications.

The interesting point about Table 3 is not the inconsistencies or special cases, but the overall pattern of meanings. Meanings for one preposition come very close to another.

Sentences 3 to 8 illustrate the shifting of meaning that occurs with the set of prepositions presented in Table 3.

(3) He ran to the store. "TO 1"

(4) He ran to the north. "TO 3"

(5) He ran at the door. "AT 7"

(6) He stopped at the door. "AT 2"

(7) He went to war. "TO 2"

(8) He went in the house. "IN 2"

Since the major definable features for these prepositions are often identical, and the basis for selecting different prepositions is based on smaller and often subtle distinctions, it is apparent why deaf children have problems when they use these prepositions. What may have happened is that during the analysis of the sample, actual errors were missed because the usage fit within the general sense that the coder had derived for the context.

Another source of confusion of these forms may be the fact that in manual communication, place relationships are signed strictly in terms of the actual physical relationships. For example, "The helicopter is over the hill" would not be ambiguous in manual communication. A skilled signer would first locate the hill within his or her signing space, then he or she would locate the helicopter in relation to the position of the hill. If the helicopter was above the hill, it would be signed as being above the hill and stationary. If the helicopter was traversing the hill's crest, the signer would move the hand indicating the helicopter across the area originally designated as the hill. The relationship between the two objects, hill and helicopter, always would be explicit from the relative positions of the signs.

High-Error/Low-Frequency Prepositions

The high-error/low-frequency prepositions may be a phenomenon of the topic of the composition. This group contains other semantic uses of "in" and "to," as well as the temporal and locative meanings of other prepositions. It is possible that in a larger sample or in a closer study of individual writers, many of these prepositions would appear with greater frequency.

Again, "in" and "to" appear in the group of prepositions, although with different meanings. "On" appears with both its temporal and locative meanings. Before discussing the other prepositions in the group, it would be useful first to discuss how "on" is related in meaning to "in," "at," and "to" and second to discuss how temporal and locative prepositions are related in English.

Dealing first with the locative meanings of "on," we find that Hill (1968) presents six meanings for them based on the criteria defined earlier.

1. "on" meaning above and in contact with.

   He was lying on the floor.

2. "on" indicating contact with a nonhorizontal surface.

   The picture was on the wall.

3. "on" indicating position in relation to a place or thing.

   John was on the other side of the road.

4. "on" meaning covering an object.

   The drape was on the chair.

5. "on" meaning a generalized locale or place.

   He was hit on the chin.

6. "on" introducing the object of an action.

   Rust has a bad effect on iron.

14

These six uses are hardly comprehensive, but they do provide some basis for comparison with "in," "at," and "to." They can be mapped onto a system as in Tables 2 and 3 and compared to the meanings of the other prepositions. "To" has a generalized meaning of +motion and +direction. "In" has a generalized meaning of +position and +limits. "At" contains the feature +position. "On" has the primary features +position and +relative. If these were the only meanings for these prepositions, the problem would not arise; however, as has been shown previously and can be seen from the meaning of "on," these simple specifications are inadequate. First, they do not describe all the meanings of a single preposition; and second, they do not differentiate the apparently identical meanings of different prepositions. With "at," the meaning system is extended toward the meanings of "against." With "on," the meanings of "upon" and "above" are approached. What is needed in order to account for the system of English prepositional meanings is some kind of field theory or system of Venn diagrams.

So far we have dealt only with the locative meanings of the prepositions, but that was based on simple expedience. It would have been difficult to account for all the different meanings at one time.

Single prepositions can vary their meanings across seemingly broad categories such as time, place, or manner. While that is an entire topic in itself, the variation across time and place is of interest to us, for that is the basis for the difficulty that deaf children have with the prepositional system. Konig (1974) remarks on the relationship of temporal and locative meanings of prepositions. He wishes to regard temporal prepositions as ultimately a special case of locatives. Unfortunately, he limits himself to a discussion of two prepositions that the sample did not use: "by" and "until."

The temporal meanings of "in," "at," "on," "to" are much more restricted than the locative uses. A sequence of "at," "on," "in" can be devised for temporal durations of increasing length. For example: He will arrive at nine o'clock on a Thursday in June. "To" has a limited set of temporal usages and seems to be a subset of "until." "To" can be ignored for that reason and for the reason that it did not appear in the corpus in that use. The systematicity of the temporal meanings would account for the fact that "at" was a low-error usage, but would not account for the fact that "on" was a high-error usage. Topic may have had a considerable effect on the frequency of these prepositions; for example, "in" did not appear as a temporal preposition.

Errors in the use of temporal prepositions by deaf children may have two sources. First, they may be due to the low frequency of use of such expressions, but that has not been proven. Second, they may be due to interference from the locative system. If the child is confusing two lexical items in their locative uses, this error pattern may generalize to other meanings.

Low-Error/Low-Frequency Prepositions

The low-error/low-frequency prepositions seemed to be highly idiosyncratic; that is, they were used by only a single writer and generally, the individuals using them had a better command of the syntax. This suggests that at some fairly high minimal point of skill, syntax and preposition usage may be related. Another explanation is that those who use the low-error/low-frequency prepositions were as a group simply better than the others across all language skills. Such a result would not be inconsistent either with the earlier classification of three types of preposition users in the corpus or with Taylor's observations (1969) about preposition usage in a younger sample. Her main observation was that

for younger children, prepositions were regularly omitted. The generalization for this corpus is that there was an identifiable group that regularly omitted prepositions, but once past that point, semantic confusion was a more serious problem.

Low-Error/High-Frequency Prepositions

Low-error/high-frequency prepositions were those expressing manner relationships. "From" is an exception to this trend. A consideration of the possible meanings of "from" suggests that its possible uses are highly restricted and not likely to generalize across other meanings. One would expect that errors in its use would tend to be omissions. This is precisely what appeared in the corpus. "With" and "for" as prepositions of manner may be fairly stable because they have clear manual signs whose meaning is the same as the English prepositions. This is opposed to a preposition like "over" which can have nine distinct meanings (Bennet, 1969); all of which would be signed differently.

Redundant Prepositions

So far we have dealt with only simple prepositional phrases and generally ignored verb and preposition-adverb usages. In so doing, we have accounted for all the cases of semantic confusion between prepositions, as well as most of the cases of preposition deletion. Redundant prepositions are a low-frequency but regular feature of the writing of deaf children. In this corpus, they seemed to be fairly systematic in their syntactic function, although they were too infrequent to permit a description of a semantic pattern for the errors.

Redundant prepositions seemed to be overgeneralizations of the use of compound verbs or verb particles (Bolinger, 1971) since they invariably appeared after a verb and seldom as a dual marker for a prepositional

phrase within a sentence. The following verbs regularly appeared with redundant prepositions:

visit (transitive) used with "at," "to," or "in"

play (transitive) used with "with"

like (transitive) used with "to" and "at"

study (transitive) used with "in"

teach (transitive) used with "of"

help (transitive) used with "with"

go or go back (intransitive) used with "to"

The rule seemed to be that transitive verbs that could become intransitive by the addition of a preposition-adverb particle were overgeneralized as a verb + particle verb into a transitive usage.

This is an interesting observation when considered in conjunction with Taylor's remarks (1969, p. 78) that in the early stages of English development, the verb contains the functional elements for the preposition. The most frequently deleted prepositions for the younger deaf child are those that are structurally required but semantically redundant. Apparently with increased development and the generation of the syntactic rule for the use of prepositions, the rule becomes overgeneralized to the point of redundancy. Since many active verb signs in American Sign Language (ASL) contain a relational component, there is also the possibility that a child simultaneously developing both ASL and English is alternating verb and preposition rules.

A Possible Model for Preposition Development

The three groups of preposition users described might provide the best basis for a model of preposition development in deaf children. The first

stage for such a model is the use of verbs which contain a semantic feature that makes the preposition semantically redundant but structurally necessary. This is the kind of child that Taylor (1969) describes in her survey of deaf writers from grades three through nine. A deaf adolescent may exhibit this kind of written English for one of two reasons. Either the child is still at the same stage of development in his or her English grammar or he or she is overgeneralizing rules from ASL. Since the basic syntax (topic-comment grammar) may or may not be present, it makes assigning adolescents to this stage difficult. The options for the syntax of a child at this stage are either a low level of English syntax which is also the child's functioning language or a "translation" of English using ASL syntax. The problem for the teacher or curriculum writer is that one problem would call for a language development approach, while the other would call for a foreign language teaching approach.

The second stage is the acquisition of the function of the preposition. Apparently, the first prepositions to be acquired are the locatives: "at," "in," "on," "to," "from," and the manner or partitive prepositions: "with," "about," "for." Although the child at this level has acquired the syntactic rule of using prepositions, he or she has still not developed all the semantic features for the system nor a full set of prepositions. Simple proximity between words, as well as verbal meanings, are still used to carry some relationships. The child exhibits some redundancy in the use of prepositions after verbs.

The third stage is the use of a somewhat expanded prepositional system but with increased use of redundant prepositions. In this case, some idiosyncratic prepositions may appear as the result of special experiences such as training programs. This is accompanied by increased sentence

length. A few specifications have been added to the locatives, but the system is still in free variation for some meanings.

The fourth stage is the elimination of the redundant prepositions except for a few outstanding cases, e.g., "look like" for "look." There is an increase in the total number of prepositions and a stabilization of locative meanings. The overall impression is that it was not written by a "native speaker," for there are some special usages that are incorrect and an absence of some more "rhetorical" usages.

References

Bennet, D.C. A stratificational view of polysemy. New Haven, Connecticut: Yale University, Linguistic Automation Project, 1969.

Bolinger, D. The phrasal verb in English. Cambridge, Massachusetts: Harvard University Press, 1971.

Charrow, V.R. Deaf English -- An investigation of the written English competence of deaf adolescents (Technical Report 236). Stanford, California: Stanford University, Institute for Mathematical Studies in Social Science, 1974.

Goyaerts, D.L. Some observations about the verb plus particle construction in English. Revue des Langues Vivantes, 1974, 39, 549-562.

Hill, L.A. Prepositions and adverbial particles. London: Oxford University Press, 1968.

Konig, E. The semantic structure of time prepositions in English. Foundations of Language, 1974, 11, 551-563.

Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. A grammar of contemporary English. New York: Seminar Press, 1972.

Sroka, K.A. The syntax of English phrasal verbs. The Hague: Mouton, 1973.

Talmy, L. The basis for a crosslinguistic typology of motion/location. Working papers on Language Universals #9. Stanford, California: Language Universal Project, 1972.

Taylor, L. A language analysis of the writing of deaf children. (Final report). Tallahassee, Florida: Florida State University, Department of English, 1969.